

Appendix 35: 2022 Terrestrial
Advisory Group (TAG) Annual Report

2022 Terrestrial Advisory Group Annual Report

Date Presented: To be presented at the next Meliadine Terrestrial Advisory Group (TAG) meeting planned on April 2023 (TBD)

Presented to: TAG members by emails as follow:

Carmen Ikuutaq	Kim Poole	Daniel Haney
Jeff Tulugak	Bradley Pirie	Kamil Sameer
Anne Gunn	Stephen Atkinson	Craig Beardsall
Geoff Bussidor	Benji Denechezhe	Daniel Chranowski
Kelly Olson	Raymond Mercer	Bert Dean
Gabriel-Antoine Cote	Sara Savoie	Matt Gillman
Robin Allard	Randy Schwandt	Helene Boulanger

1. TAG Highlights of 2022

The 2022 Terrestrial Advisory Group Annual Report documents the work conducted throughout 2022 toward the establishment of the Terrestrial Advisory Group (TAG). Even though the Term of References (TORs) were only finalized early 2023, Meliadine stakeholders were still engaged throughout 2022. This document ensures compliance with Terms and Conditions (TC) 132 of the NIRB Project Certificate No.006-002 (PC No.006-002) which stipulates:

“The Proponent shall, in consultation with the groups listed as Responsible Parties above, and any other parties considered by the Group to be necessary, establish a Terrestrial Advisory Group (TAG). The TAG shall hold its first meeting prior to any construction/installation of the waterlines. The central mandate of the TAG will be to continually review and refine impact management, mitigation, and monitoring details within the Terrestrial Environment Management and Monitoring Plan (TEMMP). The TAG Members will collaborate to share and consider methods, results, and analysis from caribou and terrestrial environment studies and monitoring Inuit Qaujimaningit, Inuit Qaujimajatuqangit, Traditional and Community Knowledge shared by knowledge holders, and other terrestrial environment monitoring data as it becomes available. The Proponent will consider the information shared by the TAG Members for incorporation into

the Project’s impact management, mitigation, and monitoring measures related to the protection of terrestrial wildlife and wildlife habitat as appropriate. Agnico Eagle shall be responsible for demonstrating how the information shared and considered by the TAG has been incorporated into the Project’s impact management, mitigation, and monitoring measures related to the protection of terrestrial wildlife and wildlife habitat as appropriate.”

A total of two (2) meetings took place in 2022. Both meetings were held in person in Winnipeg, Manitoba, and were virtually accessible through videoconference using Microsoft Teams. The focus of 2022 was the creation of the Meliadine TAG and finding consensus with the TORs. Multiples subjects were discussed. The agenda content and the participants for each meeting are listed in Table 1. The minutes detailing the discussions can be found in Appendix A.

Table 1: Description of the 2022 TAG meetings

Date	Location	Agenda	Participants
May 4th, 2022	Courtyard Winnipeg Airport Online – Teams Meeting	Introduction TAG Overview Meliadine Waterline Project Overview TAG Term of References (TORs)/ Memorandum of Understanding (MOU) path forward Terrestrial Environmental Management and Monitoring (TEMMP) Overview 2022 Caribou Migration Revised Collared Caribou Meliadine AWAR Interactions Overview Roundtable comments	Kivalliq Inuit Association (KIVIA): <ul style="list-style-type: none"> • Luis Manzo, Director of Lands • Jeff Tulugak, Land Use Inspector Kangiqliniq Hunters and Trappers Organization <ul style="list-style-type: none"> • Andre Aokaut (online) Ghotelnene K’odineh Dene (GKD) <ul style="list-style-type: none"> • Benji Denechezhe – Northlands Denesuline First Nation, Chief Negotiator • Geoff Bussidor – Sayisi Dene First Nation, Chief Negotiator Nunavut Tunngavik Inc. (NTI): <ul style="list-style-type: none"> • Raymond Mercer Government of Nunavut (GN): <ul style="list-style-type: none"> • Bradley Pirie, Project Management • Daniel Haney, Project manager - Impact assessment (online) • Stephen Atkinson, Biologist consultant for GN

Date	Location	Agenda	Participants
			<p>Agnico Eagle (AEM):</p> <ul style="list-style-type: none"> • Robin Allard, Community Consultation Specialist • Lonny Syvret, Manager-Public Affairs • Suzanne Leclair, Sr Advisor - Stakeholder Engagement (online) • Helene Boulanger, Env. Specialist • Randy Schwandt, Env. Coordinator
December 15 th & 16 th , 2022	<p>Courtyard Winnipeg Airport</p> <p>Online – Teams Meeting</p>	<p><u>Day 1 :</u></p> <p>Meeting Greetings</p> <p>Roundtable</p> <p>TAG Term of Reference</p> <ul style="list-style-type: none"> • TAG membership • Meetings of TAG • Minutes of TAG • Meetings • Materials to Support the TAG • Cost • Community Participation • Communication <p>HTO Items of Interest</p> <p>Revised Collared Caribou Meliadine AWAR Interaction</p> <p>Roundtable</p> <p><u>Day 2:</u></p> <p>Day1 Recap</p> <p>Operation Update</p> <p>Caribou Migration 2022 Highlights and Collaboration</p>	<p>KivIA:</p> <ul style="list-style-type: none"> • Jeff Tulugak, Land Use Inspector • Craig Beardsall • Jonathan Katz – Taylor McCaffrey LLP, Legal Counsel • Kim Poole, RPBio – Aurora Wildlife Research Caribou Specialist (online) • Anne Gunn – Caribou Specialist (online) <p>Baker Lake Hunters and Trappers Organization</p> <ul style="list-style-type: none"> • Eva Elytook – Baker Lake Hunters and Trappers Organization <p>GKD</p> <ul style="list-style-type: none"> • Benji Denechezhe – Northlands Denesuline First Nation, Chief Negotiator • Geoff Bussidor – Sayisi Dene First Nation, Chief Negotiator • Kelly Olson – Myers LLP, Legal Counsel • Dan Chranowski – Matrix Solutions inc., Wildlife Biologist <p>NTI:</p> <ul style="list-style-type: none"> • Raymond Mercer

Date	Location	Agenda	Participants
		<p>Alternative Monitoring Discussion</p> <ul style="list-style-type: none"> • Monitoring Trail/Trap Camera and Behavior • Drone and Artificial Intelligence (AI) 	<p>GN:</p> <ul style="list-style-type: none"> • Bradley Pirie, Project Management (online) • Daniel Haney, Project manager - Impact assessment (online) • Kamil Sameer • Stephen Atkinson, Biologist consultant for GN <p>AEM:</p> <ul style="list-style-type: none"> • Robin Allard, Community Consultation Specialist • Lonny Syvret, Manager-Public Affairs • Sara Savoie, Env. General Supervisor • Helene Boulanger, Environment Specialist • Christine Kowbel – Lawson Lundell LLP, Legal Counsel • Dan Coulton, RPBio. – WSP/Golder, Sr. Wildlife Specialist (online) • Corey de le Mare – WSP/Golder, Sr. Ecologist (online) • Scott Wilson PBIOL, RPBio – WSP/Golder, Biologist (online) • Greg Sharam – ERM, Caribou Specialist (online) • Nina Morrell, RPBio – ERM Wildlife Biologist and Spatial Analyst (online)

2. TAG Recommendations and Advice

Table 2 summarizes and lists the recommendations and advice from TAG meetings and ensures compliance with the reporting requirements section from TC 132 of the NIRB PC No.006-002 which stipulates:

“An overview of information shared during Terrestrial Advisory Group meetings and how information from the TAG was considered and incorporated by Agnico Eagle into the Project’s impact management, mitigation, and monitoring measures shall be provided to the NIRB on an annual basis in the Proponents’ Annual Report.”

Table 2: Summary of TAG Recommendations and Advice with Follow-Up

No.	TAG Meeting Reference	Recommendations and Advice	Follow-Up	Status
2022-1	May 4 th , 2022 TAG Meeting (Recommendations)	Documentation: Recommendations from the TAG should be documented in the Annual Report.	AEM included comments raised through the TAG and their follow-ups in this annual report table	Resolved
2022-2	May 4 th , 2022 TAG Meeting (Recommendations)	PC No.006-002, TC 118: As per TC 118, AEM should, in consultation with the TAG develop a decision tree outlining mitigation to be implemented when caribou in specified group sizes are observed within a specified distance of the AWAR and waterlines which will be included in the TEMMP. It is suggested that the TAG reviews the TEMMP, provide comments and follow-up a with conference call to discuss the results.	A session about the TEMMP revision was included in the 2023 Agenda items (Section 3).	Scheduled for 2023
2022-3	May 4 th , 2022 TAG Meeting (Recommendations)	Blasting/caribou study: KivIA wishes to be at site with their biologist for any blast tests conducted during the caribou migration season. AEM should first collect data outside of caribou migration period.	AEM is building preliminary datasets outside of the caribou migration season period.	Scheduled for 2023
2022-4	May 4 th , 2022 TAG Meeting (Recommendations)	Caribou mitigation with AWAR: The current threshold for the closure of AWAR is 50 caribou or more. This threshold should be evaluated using road survey data to determine the proportion of caribou interacting with the AWAR in groups of 50 or more. The purpose is to set up a group-sized threshold that determines whether a group-	A session about the TEMMP revision was included in the 2023 Agenda items (Section 3).	Scheduled for 2023

No.	TAG Meeting Reference	Recommendations and Advice	Follow-Up	Status
		sized threshold of 70% or more of caribou is meaningful.		
2022-5	May 4 th , 2022 TAG Meeting (Recommendations)	Collared caribou data: It was discussed that there might be a way to give a designated AEM employee direct access to the collar locations via a temporary admin password. This would be under a strict agreement that data cannot be downloaded.	AEM and GN are working on finalizing a Data and Sample Sharing Agreement (DSSA).	Ongoing
2022-6	May 4 th , 2022 TAG Meeting (Recommendations)	TEMMP revision: TAG members should have an opportunity to review the April 2022 version of TEMMP and provide written comments to AEM.	A session about the TEMMP revision was included in the 2023 Agenda items (Section 3).	Scheduled for 2023
2022-7	May 4 th , 2022 TAG Meeting (Recommendations)	PC No.006-002, various TC: The TAG should prioritize specific assigned tasks as per PC No.006-002.	Sessions about the various TAG-related TC were included in the 2023 Agenda items (Section 3).	Scheduled for 2023
2022-8	May 4 th , 2022 TAG Meeting (Recommendations) Dec 16 th 2022 TAG Meeting (Follow-up)	TAG agenda: AEM should circulate a work plan for the TAG showing the priority items for the next few years. Once the TORs are finalized and the caribou crossing memo is reviewed (TC44), the next priority should be the review the TEMMP.	Section 3 of this document presents the agenda items for 2023 which were introduced at the TAG meeting on December 16 th , 2022.	Resolved
2022-9	December 15 th TAG Meeting (Recommendations)	PC No.006-002, TC44 and C38: A new analysis is required to address the revisions and recommendations made by KivIA, GKD, and GN regarding the TC44 memo. It is necessary to have access to collared data before conducting data analysis	As per December 15 th meeting minutes, the consensus was that TC44 could be considered as completed with the commitment to provide an updated memo accounting for Parties' comments once data is available and considering comments from Parties.	Resolved with commitment

No.	TAG Meeting Reference	Recommendations and Advice	Follow-Up	Status
	December 15 th TAG Meeting (Follow-up)	<p>rather than analyzing images. It is also possible to define deflection.</p> <p>Two (2) main proposed objectives of new analysis by the TAG are to understand:</p> <ul style="list-style-type: none"> • Movement of caribou; and • Behavior of caribou interacting with the road and the project, and the zone of influence (including delays in time and distance). <p>TAG would determine study area, approaches and methods based on the discussion on December 15th, 2022.</p>	<p>New study objectives summary:</p> <ul style="list-style-type: none"> • Looking at ZOI at the time of the year along the road and project. • Considering the proximity of Rankin Inlet and the community. • Step regression is to be determined with movement. • Time and energy. • Caribou behavior, such as walking parallel. • Caribou that interact with road and caribou that do not. • Understand movement in spring vs. post-calving. • Response to mine and road. • The proximity between collared data and road. • Ice on and off. • Landscape and orientation; Herd Meliadine Lake on one side or the other. • Hunting pressure analysis. • Caribou by observing data type and monitoring (HTO). <p>Notation per 6.2 of the TAG TORs: SDFN/NDFN wishes to add the following editorial comment to these minutes, which was not stated during the meeting: “At this time, SDFN/NDFN do not agree that TC44 has been fulfilled/satisfied with respect to the collared caribou memo. It may be satisfied once the new analysis by</p>	

No.	TAG Meeting Reference	Recommendations and Advice	Follow-Up	Status
			<p>Agnico Eagle is shared and discussed with the TAG, based on updated data and comments discussed between the members of the TAG.”</p> <p>AEM is still pursuing the caribou satellite collar Data and Sample Sharing Agreement (DSSA).</p>	
2022-10	<p>December 16th TAG Meeting (Recommendations)</p> <p>December 16th TAG Meeting (Follow-up)</p>	<p>Distances & names consistency:</p> <p>Ensure consistency when referencing distances and locations.</p>	<p>AEM will ensure consistency in referencing distances and locations and will provide a map with the kilometer markers at the next TAG.</p>	Scheduled for 2023
2022-11	<p>December 16th TAG Meeting (Recommendations)</p> <p>December 16th TAG Meeting (Follow-up)</p>	<p>Spill Response Plan:</p> <p>GKD suggested that additional spill prevention and containment measures could be installed and used (e.g., extra sheathing at the connection points of the lines).</p>	<p>AEM suggested to further discuss this topic at the TAG should Parties wish to do so as several considerations would need to be accounted for.</p>	To be further discussed as needed
2022-12	<p>December 16th TAG Meeting (Recommendations)</p> <p>December 16th TAG Meeting (Follow-up)</p>	<p>Documentation during caribou migration:</p> <p>The annual report should include more information to document the caribou migration, indicating distance and group size, as well as the number of caribou crossing per day and when collared caribou cross.</p> <p>The on-site decision regarding traffic suspension protocol should be further documented based on field conditions.</p>	<p>A session about the TEMMP revision was included in the 2023 Agenda items (Section 3).</p>	Scheduled for 2023

No.	TAG Meeting Reference	Recommendations and Advice	Follow-Up	Status
2022-13	December 16 th TAG Meeting (Recommendations)	<p>Caribou mitigation with AWAR:</p> <p>AEM may consider an experiment for the first few days of this spring, changing the triggers to less than 50 caribou and more than 400-500 meters from the road, to observe how caribou leaders respond.</p>	A session about the TEMMP revision was included in the 2023 Agenda items (Section 3).	Scheduled for 2023
2022-14	December 16 th TAG Meeting (Recommendations)	<p>Annual TEMMP report:</p> <p>Discuss in advance what should be included in the annual TEMMP report in terms of its structure and content.</p> <p>Data from road surveys, behavior data, collared caribou data, and AWAR camera images should be integrated.</p> <p>The effectiveness of mitigation and the shift in the calving season since 2020 should be described.</p>	AEM proposes to provide a high-level overview of the 2022 TEMMP annual report in 2023. As per the 2023 TEMMP annual report content and structure, they will be further discussed throughout TAG meetings in 2023.	Scheduled for 2023
2022-15	December 16 th TAG Meeting (Recommendations)	<p>Annual TEMMP report:</p> <p>The annual report should include the Caribou Migration Daily maps.</p>	The Caribou Migration Daily maps are shared in on a daily basis with Parties throughout the migration.	Resolved
2022-16	December 16 th TAG Meeting (Recommendations)	<p>Caribou crossing at the Narrows:</p> <p>It is KivIA hope to install cameras on both sides of the Narrows in order to document the crossing of caribou.</p>	AEM proposed to prioritize the camera locations for 2023 to gather the maximum information along the AWAR and waterline.	Resolved
2022-17	December 16 th TAG Meeting (Recommendations)	<p>Camera along AWAR:</p> <p>AEM is recommended to install back-to-back trail cameras along the AWAR to document the entire radius of detected movement when a caribou crosses the AWAR.</p>	AEM proposed to prioritize the camera locations for 2023 to gather the maximum of information along the AWAR and waterline.	Under consideration at specific locations

No.	TAG Meeting Reference	Recommendations and Advice	Follow-Up	Status
2022-18	December 16 th TAG Meeting (Recommendations)	<p>The use of drones for caribou monitoring:</p> <ul style="list-style-type: none"> • Image clearer with the drone hovering at 300 m above ground level. • Verify the limit at 300-350 m above ground level for large groups of caribou). • Require high resolution (6k) camera. • Find the balance between drone size and capacity to fly in windy conditions. • Verify with GN and Transport Canada about wildlife harassment. • Establish a pilot project to gather information about distance and noise. • Be aware of female caribou that show alertness behavior. 	AEM will account for the information collected and present to the TAG proposed methods to monitor caribou during migration at the next TAG meeting.	Scheduled for 2023

3. Agenda Items for 2023

On December 16th, 2022, a calendar with a list of subjects to be discussed at the TAG were proposed for 2023 (Table 3), consisting of four (4) main meetings including one to be held in Rankin Inlet, Nunavut. Additional shorter meetings could occur throughout the year as required.

Table 3: Proposed Calendar with Agenda

Calendar	Proposed Location	Proposed Agenda
April	In Person –Winnipeg Online – Teams Meeting	Meliadine AWAR Crossing Memo (including Collared Caribou Data Analysis upon DSSA signature) Decision Tree Revision (TEMMP) Regional Study Area (RSA) and Deflection 2022 Annual Report Overview (High Level) TEMMP Revision
May	Online – Teams Meeting	Decision Tree Revision (TEMMP) Caribou Migration Readiness
June	In Person – Meliadine Site and Rankin Inlet Online – Teams Meeting	Caribou Mitigation and Monitoring Caribou Migration Readiness Plan One (1) Field Day
October	Online – Teams Meeting	Meliadine Extension Project Overview 2023 Caribou Migration

APPENDIX A TAG Meeting Minutes



Meeting Subject: Meliadine Terrestrial Advisory Group - Agnico Eagle - Kick off meeting

Meeting Date: 5/4/2022 8:00 AM

Location: Courtyard Winnipeg Airport and via Microsoft Teams (teleconference)

Participants

Bradley Pirie – GN Project Management
Daniel Haney – GN Project manager - Impact assessment (online)
Stephen Atkinson – Biologist consultant for GN
Luis Manzo – Kivalliq Inuit Association (KIA), Director of Lands
Jeff Tulugak – Kivalliq Inuit Association (KIA), Land Use Inspector
Raymond Mercer – Nunavut Tunngavik Incorporated
Andre Aokaut –Kangiqliniq Hunters and Trappers Organization (KHTO; online)
Benji Denechezhe – Northland Denesuline First Nation, Chief Negotiator
Geoff Bussidor – Sayisi Dene First Nation, Chief Negotiator
Robin Allard – Agnico Eagle (AEM), Community Consultation Specialist
Suzanne Leclair – Agnico Eagle (AEM), Sr Advisor - Stakeholder Engagement (online)
Helene Boulanger – Agnico Eagle (AEM), Environment Specialist
Randy Schwandt – Agnico Eagle (AEM), Environment Coordinator
Lonny Syvret – Agnico Eagle (AEM), Manager-Public Affairs

1.0 Meeting Greetings

Speaker: Robin Allard, Lonny Syvret

2.0 Round Table - Introduction

Speaker: everyone

3.0 TAG Overview

Speaker: Robin Allard

Purposes of TAG:

- To discuss in a constructive, positive, and open way.
- TAG is meant to be reality bases and focused on field practices and efficiencies,
- TAG is a way to tie TAG with IQ, IQn, Traditional, Indigenous and community knowledge
- To reach consensus decision about how Agnico Eagle wants to do things at Meliadine
- To come up with decisions that everyone is comfortable for the protection of Terrestrial Environment Wildlife.
- The TOR is also about this (consensus decision, through constructive, positive, and open dialogue)

Any question/expectation/comment:

Comment Geoff : Expected to get more Inuit representation, Inuit elders; Want to know more about IQ; want to reach out to other parties

Answer Robin- was AEM intent, invitations were sent and accepted but some people couldn't make it at the last minute

Question Stephen : Suggest creating list of work items or priorities for the TAG

Answer Robin: TAG has Agenda, priorities are:

1. TOR
2. TEMMP - want to involve the TAG, was revised but not through the TAG
3. Crossing AWAR memo - need high level. Quick to release comment.

Comment Stephen: Add Structure/format to document comments or TAG related issue in Annual report
For example, the Memo caribou crossing - what advice do AEM got and what was implemented.
How can we improve the system?

Comment Jeff: Preference to go more line to line to review TOR- instead discuss broadly

Answer Robin: Discussion of TOR rather in group setup vs individually- still try to get the best fit
If we have time, we can go specifically into line to line today.

Comment Luis: Mitigation measures, operation vs shut down during caribou migration

Caribou crossing, time lapse, and type of data AEM has to clarify what happen and take better decision;
Connection between data collection and activities should be linked; Only very high-level info available. KIA can interpret better if better data available.

Comment Benji : Come here in good faith amongst groups with caribou concerns and how it can be

affected on the long run. Lots of concern raised on Caribou (North of AB caribou example concerns); Dene First Nation rely on caribou for livelihood (gatherers, hunters); Finalize the TOR and MOU and specific timeline set to have project certificate; Will need time to review documents (They didn't receive).

Comment Geoff : Historical and ancient knowledge indicating caribou affected by small things

Willingness to share information, traditional knowledge, be collaborative with other parties
Feel disadvantage because their biologist is not available at the moment; Dene would like to find which island women Dene went live with an Inuit and give birth to a child.
Story told by Geoff about that Women Dene

Story Benji : Share Dene people story about importance of caribou and past government mistrust;

Concerns over caribou; climate change, change in wildlife behavior.

Comment Luis: IQ respect caribou crossing, be coordinated to ensure no impact during migration.

What data/form collected

3.1 Logistic

TOR- more meetings will be held online then adjust and finalize with an in person meeting

TAG –

- Meetings will ideally be held in person at key events (January/February, annual report, before caribou migration, and post mortem migration to discuss about caribou migration issues)
- Ensure there is no conflict with other consultations, meetings (actual meetings at Rankin Inlet and also Winnipeg at the moment)
- Preference for everyone for in person meetings
- Try to have meeting in the north (at site or Rankin Inlet)
- TAG could be held in couple days. Lots of information and require discussions within parties; for GN, timing is 1 week due to flight availability to Iqaluit;
- Minutes - When having minutes to the meeting

Answer Robin: Helene is talking notes, minutes will be sent to people at the meeting for review to ensure it is accurate then sent to everyone

- At this moment Robin is leading the TAG but on the long term, Operation/Field will be taking over and lead the TAG

4.0 Meliadine Waterline Project Overview

Speaker: Robin

See Saline effluent discharge to Marine Environment PowerPoint

Quick overview

- Waterline taking water from the underground into Itivia
- Right now, saline water is trucked to Itivia but planning to build a waterline
- Powerpoint showed how the waterline will be installed
- Construction discharge/diffuser Itivia-
- Timeframe is not set yet

- Max time construction to minimize impact
- Ideally construction start summer 2022; waterline in service for 2024.

Question Raymond: How many emergency shut off valve will be installed along the waterlines.

Answer Robin: Optic cable will be installed for leak detection; no valve along the waterlines.

Question Raymond: What is the volume of water discharge from the waterline.

Answer Robin: Number to be validated

Question Raymond: Concern - one bridge spot has sharp shoulder, will erode/corrode then could leak

Answer Robin: Assuming that leak, the waterline is not gravity fed. Will have only some portions because there is up and down in the elevation of the waterline and immediate shutdown with fiberoptic controls, only a section of the line will be emptied not the whole line. Spill response plan available.

Question Bradley: Is construction of waterline be done in 1 year

Answer Robin: Construction will be over 2 years – Plan to be finished by 2023

Question: Is Meadowbank in similar situation?

Answer Robin: Meadowbank is mostly open pit; the underground portion is not deep enough; will be able to manage onsite if saline water. No saline water to deal with at this point

Question Jeff: Will waterline be covered be right away? Having concern about holes left from trenches and snowmobile during wintertime.

Answer Robin: Trenches will be covered as quickly as possible and ideally before freeze

Question : Could vibration from pipeline water impact caribou

Answer Robin: Trying to look at it; Possible to predict the vibration. Can do some correlations with another pipe (freshwater) at site and can use equipment to study monitor and monitor wildlife.

5.0 TAG TOR/MOU Path Forward

Speaker: Robin

TOR section 1.1.1.1- Rely to terms and conditions 132. Agnico Eagle is attached to the conditions and references; Add IQ, IQn and TK, IK, into TAG process

TOR section 1.2- Lot of synonym vocabulary for groups, members, parties, etc.... to improve clarity TOR only use 'parties'

TOR section 2.1- Will be more inclusive with the 2 IQ

TOR section 2.2.4- The TAG is not responsible to prepare/update the TEMMP. TEMMP is prepared by Agnico Eagle then submitted to TAG for advice and comments.

TOR section 3.1- Review committee. Sometime could be difficult to agree, review committee offers a 2nd chance/level when incidence of consensus is not reached for key items. Review committee will discuss issues in a smaller group to attempt to get consensus.

Question Jeff Who is in committee; Are they the same TAG members participating in committee?

Answer Robin: Allow to discuss key items further as 2nd chance instead to go to NIRB; if consensus not reached will be put in comment in the Project Certificate; Committee will be TAG member as described into TOR but one of each party will be represented.

TOR section 3.2- Evidence-based approach

Question Bradley - what is evidence-based approach

Answer Robin: TK, IQ, IQn, IK, western science, consultant as long as based on evidence

Comment Stephen: Expert should be able to provide opinion that is considered evidence when it is based on literature. When Project specific data are not available inferences from the literature and professional judgement should be considered as evidence as AEM have stated in their FEIS document for Projects in Nunavut;

Comment Geoff: Interpretation of evidence-based can be different such as Traditional Knowledge

Question Geoff: Community meeting observation. Cyanide/salt holes in the ice/borehole. Want more info

TOR section 4.1- Keep consensus-based approach. Not a voting process. Need to have discussion and everybody on board.

Comment/Question Stephen: If TEMMP is revised, should need consensus. Unlike parts of the Whale Tail TAG's TOR, need for Meliadine TAG to reach consensus before the TEMMP is revised is not a requirement of the Project Certificate Terms and Conditions. Agnico Eagle is not obliged to apply TAG comments. Therefore, there should be documentation/have mechanism describing how TAG comments on revisions to the TEMMP are reported and where consensus is not reached, what decision was made, if Agnico Eagle is following what was discussed. Would be useful to have a table for concordance at the front of the TEMMP to track revisions showing which ones the TAG agreed with or not. Documented, tracking, see what was changed in the TEMMP, whether it was discussed by the TAG and whether the TAG reached a consensus on the change

Answer Robin: Ideally consensus will be reached on changes made to the TEMMP.

TOR section 5.3 Legal Counsel - Agnico Eagle would prefer to avoid legal representation at TAG. Parties can refer to their council if needed but not having them present at the meeting. Want open discussion environment.

TOR section 6.1- Meeting of the TAG. Waterline ; Remote/in person; Frequency; When

Comment Benji: Problematic with process to revised Terms and Conditions (GN), Dene First Nation didn't feel consulted on this.

TOR section 6.3- Minimum 1 TAG meeting per year

TOR section 6.4- location and dates can be changed, can be also teleconferences

TOR section 8.1- Material to be provided as soon as possible by Agnico Eagle

TOR section 8.2- Working activities; Share meeting TAG

TOR section 9.0 Cost - Agnico Eagle will support financially for meeting

TOR section 9.5 Funding agreement

TOR section 10.1 Community participation

KIA, HTO can report to their communities

TOR section 11.2 Communication

Everything has to be approved internally before being sent externally. This is to ensure open dialogue during meeting

Question Robin - When should we plan group meeting for TOR? Individually vs group setting

Answer Raymond = Group;

Answer Jeff = Group;

Answer Luis = Group;

Answer GN = Group;

Answer Benji = Group;

Answer Geoff = Group

First Consensus at TAG!

Updated draft TOR ready by next week May 13th; May 30th next date meeting for TOR; will be conference meeting.

An invitation will be sent to all.

6.0 TEMMP Overview

Speaker: Helene Boulanger

See TEMMP Overview Powerpoint

Question/Comment Stephen: TAG was tasked in Term and Condition 118 of the Project certificate to work with Agnico in developing the decision tree of caribou in the TEMMP. Should get a dedicated session to go through Term and Condition 118. Suggestion that the TAG review the TEMMP, provide comments and follow up conference call with the comments. In a review operation and commitment to be reviewed a draft plan for the TEMMP. 30 days before NIRB Working on the TEMMP and the memo (TC44)

Comment Luis: KIA wants to be present at any test blasts

7.0 Migration 2022

Speaker: Randy Schwandt

See Caribou Migration Powerpoint

3 alert levels - increase survey. Threshold at Level 3 :

- 50 caribou within 100 m AWAR
- 50 caribou within 5 km from site

No activity beside essential work at Meliadine site:

- Fueling generator
- Operation sewage plant
- Inspection safety
- ERT deployment
- Reportable spill
- Time sensitive compliance activities

Management strategy 2022. (Similar 2021)

Wildlife always has road of way

Caribou Migration Alert notification. Estimated value from field collected around 6AM, 12PM, 6PM

Convoy crew change and collecting data; Agnico Eagle still have lunches, water in bus, and portable potty for long wait during crew change bus

Question Jeff: Trailer was installed along AWAR because stuck along the road

Answer Robin: Need to check with Logistic but not done in 2021.

Blasting /caribou project:

Propose something - KIA want to be there and biologist present as well when the project is conducted.

Construction blasting vs Development blasting

Try to improve the sequence, and spread into time, offset, perception will be less. See calibration

Comment Luis/Jeff: Caribou is too sensitive, timing is bad, calf 1 week old, very early and vulnerable don't want to be separated to female. Should be precautionary principal. Get data before migration.

Get info to build; Blasting when herd approaching. Manage caribou for 5 days blasting on their way in not when they are there.

Answer Robin: Intent is to build to dataset

Comment Benji: Lot of water, migration QAM herd pattern is totally different, use to come into Dene territory, now staying more North. This year came down Northern Saskatchewan, and NWT. Caribou came down early in fall. Pattern is different not consistent in the last years

Comment Jeff: Lots of caribou north of Churchill; Few more wolves (pack of 14 observed in the area) and more wolverine.

Question Stephen: Current threshold for AWAR closure is 50 or more caribou. The validity of this threshold should be examined using road survey data to see what proportion of caribou interacting with the AWAR are in groups of 50 or more. The goal being to set a group size threshold that represents at least 70% of caribou to see, if group size is a meaningful threshold.

Question Stephen: When implementing level 3 road mitigation for caribou, is there local traffic?

Answer Jeff: no vehicle, shut down road; Community also gets traffic restriction. Only ATV or side by side (exception): Meat dry; Fishing; Hunting-harvesting

It was discussed that the caribou collar maps provided to Agnico by GN are sometimes days old by which time the caribou have arrived at site. This seems to be more of a problem on weekends and civic holidays when maps are not being produced and sent out. This tends to be more of a problem during July/August when the caribou are coming through and their arrival coincides with weekends/long weekends

Question Stephen: It was discussed that there might be a way to give a designated Agnico employee direct access to the collar locations via a temporary admin password and under a strict agreement that data cannot be downloaded.

Answer Robin/Randy: would be very beneficial to get actual movement of caribou from GN. Randy use local contacts to find out where they are. Maps are not up to date and have problems during weekend and holidays. Should access info when GN not available. Agnico Eagle can get rigid non-disclosure and several secure methods to ensure data is protected. It would be easier to manage flight and crew changes which has significant cost implication. Field people are often in the dark. When we see them in the field it's harder to react and need time to shut down areas.

Note Bradley (after TAG): this would have to go through our Wildlife Division before it can be agreed to.

Community happy by changing, improvement from perspective. Working collaboration together Agnico Eagle, GN, KIA, HTO.

Use of drone: Drone-pilot project- community is changing perception about drone by showing how it's worked. Good perspective. Very effective to observe over hills with little disturbance on caribou. Could have problems with other species. Protocol on the way.

8.0 Revised Collared Caribou Meliadine AWAR Interaction Overview

Speaker: Robin

Part of Term and Condition 44.

Agnico Eagle understand that there was not enough time for review. All parties will have until end of the month (May 27th) to review and send comments.

Comment Stephen

1 key conclusion of the memo is about the fact that caribou density is higher in LSA than RSA. This finding is interpreted by the memo's authors to indicate that caribou are not avoiding the LSA. However, it might indicate that the AWAR is a barrier to caribou causing them slow, stop or deflect near the road and therefore pool together at higher densities. This behaviour has been well documents at the Whale Tail haul road and Meadowbank AWAR.

Memo covers 3 time periods: baseline, construction, active operation. There is not much data available on the baseline. The memo seems to assume that there was less activity (and potential disturbance of caribou) during the

construction phase than during operation phase. There is no evidence to support this. The construction phase may have been more disturbing given the presence of heavy equipment and blasting activities etc. Use of deflection with no potential of cross but they have potential, they are walking along AWAR not crossing. Should verify Meadowbank frequency of road crossing.

Answer Robin: Added that intent of the Memo was to focus on crossings, not proceed to an Upstream/Downstream assessment. Caribou are not scared of the road based on some assessments.

Comment Bradley: GN is interested in doing an analysis on what proportion of the herd is captured under the 50 caribou trigger. Does this match with the proportion GN wants?

Question Stephen

Is the 50 individuals trigger rigorously applied, or is that too onerous, or is that exactly what AEM is doing?

Answer Robin/Randy : yes it is rigorously applied, if a driver sees a group of 50 caribou then dispatch is contacted and the road is automatically shut down.

Question Geoff: Is calcium chloride considered as deterrent?

Answer Jeff: Experience from the past showed bag could attract caribou but overall application not really.

Answer Stephen: not known in literature to attract or deter.

Comment Stephen: There should be an opportunity for TAG members to review the April 2022 version of TEMMP and provide AEM with written comments. This should be followed by a meeting on the topic. A top work priority for the TAG must be to address the specific tasks assigned to it by the PC (amendment #2) in terms and condition 118 (Caribou decision tree development) and 119, 44, 45, 55 etc. The TAG must dedicate time to these tasks because they are linked directly to the Project certificate.

AEM should circulate a workplan for the TAG which shows the priority items to be worked on in the next few years. After finalize TOR and review of the caribou crossing memo, next priorities should be TAG review and discussion of the TEMMP and potential revisions. Then TAG tasks assigned under PC terms and conditions (see above).

9.0 Roundtable - Comments

Speaker: everyone

Question Bradley: In April, there was a plan map about extension what other parties were consulted and when

Answer Robin: very high level at this point. Need to consult Permitting about the NIRB process

Comment Luis: Using drone to get better info about caribou monitoring

Comment Stephen: very constructive, need work plan for the TAG with deadlines, first year tentative schedule with deadlines. It would be useful, put some videos / collar maps /material / meeting/ caribou crossing to be documented. Would be very beneficial.

Comment Bradley: Couple meeting at site, for scope and scale.

Story Benji and **Story Geoff**

Topic: Day 1 - Meliadine Terrestrial Advisory Group - Agnico Eagle

Meeting Date: December 15th, 2022, 09:00 AM- 17:00 PM

Location: Courtyard Winnipeg Airport and via Microsoft Teams (teleconference)

Attendees: Jeff Tulugak – Kivalliq Inuit Association (KivIA)
Craig Beardsall – KivIA
Jonathan Katz – Taylor McCaffrey LLP, Legal Counsel (KivIA)
Kim Poole, RPBio. – Aurora Wildlife Research
Caribou Specialist (KivIA) – Online
Anne Gunn – Caribou Specialist (KivIA) - Online
Benji Denechezhe – Northland Denesuline First Nation, Chief Negotiator
Geoff Bussidor – Sayisi Dene First Nation, Chief Negotiator
Kelly Olson – Myers LLP
Legal Counsel (Northland Denesuline and Sayisi Dene FN)
Dan Chranowski – Matrix Solutions Inc.
Wildlife Biologist (Northlands Denesuline and Sayisi Dene FN)
Eva Elytook – Baker Lake Hunters and Trappers Organization
Raymond Mercer – Nunavut Tunngavik Incorporated (NTI) – Online
Daniel Haney – Government of Nunavut (GN)
Manager, Land Use & Environmental Assessment– Online
Bradley Pirie – GN Project Management – Online
Kamil Sameer – GN Project Manager, Impact Assessment
Stephen Atkinson – Biologist consultant for GN
Robin Allard – Agnico Eagle (AEM), Community Consultation Specialist
Lonny Syvret – AEM, Manager-Public Affairs
Sara Savoie – AEM, Environment General Supervisor
Helene Boulanger – AEM, Environment Specialist
Christine Kowbel – Lawson Lundell LLP, Legal Counsel (AEM)
Dan Coulton, RPBio. – WSP/Golder, Sr. Wildlife Specialist (AEM) – Online
Corey de le Mare – WSP/Golder, Sr. Ecologist (AEM) – Online
Scott Wilson P Biol., RPBio – WSP/Golder, Biologist (AEM) – Online
Greg Sharam – ERM, Caribou Specialist (AEM) – Online
Nina Morrell, RPBio – ERM
Wildlife Biologist and Spatial Analyst (AEM) – Online

1. Meeting Greetings

Speakers: Robin Allard, Lonny Syvret



2. Roundtable – Introduction

Speakers: everyone

Kim Poole – asked to speaker to ID themselves before speaking because video do not allow to see everyone and might be hard to identify people from voices.

3. TAG Term of Reference

Speaker: Robin Allard, Christine Kowbel

Robin Allard read TOR line by line

Section 1 – Purpose of the TAG

1.2 Another purpose of the TAG is the sharing of relevant information and experiences between Parties (including their consultants), as experts in their respective terrestrial-related fields and backgrounds, such as IQn, IQ, TK, CK, InK, and Western Science.

- Eva Elytook – What is the definition of TK?
- Robin Allard – TK is defined in Section 1.1. Its definition would include any form of knowledge similar to IQ and IQn.

Section 2 – Functions of the TAG

2.1. Agnico Eagle will seek advice from the TAG with respect to monitoring programs and mitigation measures that will be developed by Agnico Eagle and its experts to collect data, monitor potential effects of the Project, and determine any adaptive management measures that may be required during the construction, operations, closure and reclamation of the Project.

Such monitoring programs will collect and use IQn, IQ, TK, CK, and InK and Western Science.

The TAG will collaborate to share and consider methods, results, and analysis from caribou and terrestrial environment studies and monitoring, IQn, IQ, TK, CK, and InK shared by knowledge holders, and other terrestrial environment monitoring data as it becomes available.

2.3.1. make recommendations and provide advice to Agnico Eagle on any aspects of the TEMMP for the adoption of monitoring programs and mitigation measures in order to comply with applicable regulatory requirements and to help to mitigate adverse Project effects;

- Jonathan Katz – Regarding sections 2.1 and 2.3.1, why does section 2.1 only include advice and not recommendation and section 2.3.1 includes advice and recommendation?
- Christine Kowbel – 2.1 is specific about knowledge.



2.3.2. establish collaborative arrangements between Kivalliq Inuit, Ghotelnene K'odtineh Dene and other TAG members, to protect the environment, as well as the traditional relationships of the Inuit and Ghotelnene K'odtineh Dene with the terrestrial environment, with some of the objectives of these arrangements being to:

a) develop sufficient data and knowledge from which the Project can be effectively monitored and managed;

b) incorporate an ecosystem-based approach (meaning an approach that takes into account interaction of land, water and human activities), for monitoring and management of Project-related environmental effects;

c) support the meaningful participation of members of the TAG, local Inuit and Dene in all aspects of environmental monitoring programs in all phases of the Project and development of mitigation measures; and

d) integrate IQn, IQ, TK, CK, and InK in design and implementation of environmental monitoring programs and mitigation measures;

- Dan Chranowski – What is the difference between IQn and IQ?
- Robin Allard – IQ is knowledge recognized by elders and based on traditional and cultural sources; IQn is a community knowledge gathering collective for specific topics.
- Geoff Bussidor – b) Does TAG cover other topic than terrestrial?
- Robin Allard – TAG's focus is about terrestrial topics.
- Kelly Olson – b) of "that that" should be changed to "to that"

2.3.4. periodically review the TEMMP to determine whether to recommend changes in relation to the terrestrial environment and if required, request Agnico Eagle to update the TEMMP in relation to the terrestrial environment;

- Anne Gunn – What would trigger a TEMMP update?
- Robin Allard – Discussions at the TAG would need to be held.
- Christine Kowbel – The Section 3 of TOR addresses how TAG is handling recommendations from members.
- Anne Gunn – Can members request a TEMMP update during a TAG meeting?
- Robin Allard – Yes.

2.3.5. review the implementation of the TEMMP in relation to the terrestrial environment;

- Bradley Pirie – What does the implementation of the TEMMP mean?
- Christine Kowbel – Refer to section 2.3.11 about what would be covered and 2.3.10 about report revision.



Section 3 – TAG Recommendations and Advice

3.1. Consistent with the methods used in preparing the Project's environmental impact statement, professional judgement or experienced opinion must be based on supporting evidence (including any relevant IQn, IQ, TK, CK, InK and Western Science, monitoring data, and/or relevant scientific literature). Supporting evidence shall be specifically referenced as support for any position taken by a Party based on professional judgment and/or experienced opinion.

- Stephen Atkinson –When there is a gap in knowledge professional judgement can be based on inference and field observations rather than evidence; ‘supporting evidence *where available*’ should be added.
- Helene Boulanger – Professional judgement still require to be supported with arguments.
- Christine Kowbel – Professional judgement still need to be justified.
- Dan Chranowski – Proposes to change the use of “must” to “shall”.
- Eva Elytook – Must is a strong word.
- Jeff Tulugak: Agrees must is a strong word.
- Lonny Syvret – TAG is about having discussions with rationales.
- Christine Kowbel– Proposes a revised sentence accounting for the participants’ comments.
- All – Agree on the new wordings of Section 3.1

3.4.All TAG Recommendations and TAG Advice shall be evidence-based (i.e. taking into account IQn, IQ, TK, CK, InK and Western Science evidence), and all TAG Recommendations and TAG Advice will include a summary of evidence on which they are based.

- Jonathan Katz – Recommendations should be evidence based and rational based
- Christine Kowbel – Proposes new wording and clarifies that this item is for continuity, if TAG members change it will be easy to track reasons behind the recommendations.
- All – Agree on the new wordings of Section 3.4



Section 4 – TAG Membership

4.1. TAG membership is determined by an organization's mandate which allows it to contribute to TAG's purpose. The following Parties may appoint one (1) Party representative plus one (1) alternate Party representative to participate on the TAG:

- Kivalliq Inuit Association;
 - Agnico Eagle;
 - Nunavut Tunngavik Incorporated;
 - Kivalliq Wildlife Board;
 - Government of Nunavut (Department of Environment);
 - Kangiqliniq Hunters and Trappers Organization;
 - Baker Lake Hunters and Trappers Organization;
 - Sayisi Dene First Nation;
 - Northland Denesuline First Nation;
 - Arviat Hunters and Trappers Organization, if they wish to participate;
 - Issatik Hunters and Trappers Organization, if they wish to participate; and
 - Aqigiq Hunters and Trappers Organization if they wish to participate.
-

- Kelly Olson – Who are the TAG parties' members? Should there be only one Memorandum of Understanding (MoU) for all parties? Stated his interpretation that the Project Certificate sets out the required parties to the TOR and indicates there should be a single MOU. As some parties appear to not be participating in the TOR and separate MOUs/approvals are being utilized, it will be up to the regulator to determine if the TOR/approvals satisfy TC132. However, the SDFN/NDFN are willing to proceed as proposed.
- Robin Allard and Lonny Syvret – AEM is wording actively with CIRNAC. TAG parties would be the signatory of the TOR; due diligence was applied and all parties listed in 4.1 were contacted and invited to join the TAG. If a group wants to be added later as a Party to the TAG, it will need to sign the TORs.
- Christine Kowbel – Everyone's approval process is different. TORs defines relationship at TAG and MoU indicates different process within Party/Group and their representative. As long as Parties sign the same TORs there can be various MoUs.
- Jeff Tulugak – Has CIRNAC asked to be part of the TAG? Has heard they might want to participate.



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- Lonny Syvret – AEM will follow-up with CIRNAC on that matter.
- Jonathan Katz – KivIA would agree with both options but understands not everyone has the same capacity and doesn't want this issue to slow down the process as KivIA wants the waterline file to move forward. Will KWB be TAG members?
- ok with their MoU, wants to move forward.
- Lonny Syvret – AEM consulted KWB but KWB indicated they didn't want to participate to the TAG.
- Eva Elytook – BLHTO wants to be involved because it's about Nunavut.
- Christine Kowbel – proposed modifications according to participant's inputs.
- Kelly Olson – Agrees with revised wording of section 4.1.
- Geoff Bussidor – Why are the Beverly and Qamanirjuaq Caribou Management Board – not included in the TAG?
- Robin Allard – The intent of the TAG is to involve people closer to site and Minister hasn't included them in his letter. They can be invited as observer if TAG wishes.

4.3. In the initial year of the term of the TAG, a Party representative appointed by Agnico Eagle will act as the chair of the TAG and thereafter, on an annual basis, the Parties of the TAG will choose a chair by a majority vote.

- Kim Poole – Does parties majority vote refer to only party members or independent members?
- Christine Kowbel – The idea is the proponent is not the chair.

4.4. When the chair is absent for any reason, an alternate representative of the Party to which the chair belongs will act as chair.

Jonathan Katz – Alternative should be written instead of alternate.

Section 5 – Meetings of the TAG

5.2. The TAG will meet at least once a year and more frequently based on need and consensus of the Party representatives.

- Kim Poole – Does it mean having only one TAG meeting a year?
- Robin Allard – The idea is to have at least one meeting a year in person.



5.4. *The operations of the TAG, including correspondence, documentation, and meetings, will be conducted in English. On a case-by-case basis as necessary, meetings may require simultaneous translation into and from Inuktitut.*

5.5. *Studies, results and reports presented as part of a TAG meeting should be summarized in plain language and circulated to the Parties in advance of the meeting. Plain language summaries will be translated in Inuktitut and circulated to the TAG as soon as they are available.*

- Christine Kowbel – Should the item be reworded for translations to be opened to more groups?
- Daniel Haney – Proposes to word “*Simultaneous translation or simultaneous interpretation*”.
- Jeff Tulugak – Proposes meeting at site and during caribou migration.
- Christine Kowbel – Adds timeframe of 7 business days to send information in advance of meeting following participants inputs and adds Section 5.6 to account for TAG site visits.

Section 6 – Minutes of TAG Meetings

6.2. *The Parties agree to work together to finalize TAG minutes following each TAG Meeting. Agnico Eagle will circulate draft TAG minutes to each Party that attended the TAG meeting within seven (7) days after each TAG meeting. Parties will provide any comments on the draft TAG minutes within fourteen (14) days of reception of the draft TAG minutes. Agnico Eagle will circulate the Final TAG Minutes by email to all Parties within fourteen (14) days after the close of the period for comments from the Parties. Should there be a disagreement on the draft TAG Minutes, that cannot be resolved, the disagreement shall be noted in the Final TAG Minutes.*

- Jeff Tulugak – Proposes to word *business days* instead of days to account for holidays
- Dan Chranowski – What happens if there is a disagreement?
- Christine Kowbel – This is meant to be a QAQC process, there shouldn't be disagreements on substantive items.

Section 7 - Materials to Support the TAG

7.1.2. *copies of operational management plans associated with the Project Certificate and Type A Water License issued by the Nunavut Water Board;*

- Dan Chranowski – To be consistent either NIRB should be added or NWB should be removed.
- Christine Kowbel – Removed Nunavut Water Board.



Section 8 – Cost

8.5. Agnico Eagle and the Government of Nunavut will provide financial support to the concerned Hunters and Trappers Organizations to the extent it requires support in order to participate in the TAG. A separate funding agreement will be developed and signed by the parties.

- Bradley Pirie – In Section 8.5, GN doesn’t want to be committed to funding.
- Christine Kowbel – Proposes new wording.

8.6. Agnico Eagle and the Government of Canada will provide financial support to Sayisi Dene First Nation and Northlands Denesuline First Nation to the extent they require support in order to participate in the TAG. A separate funding agreement will be developed and signed by the parties

- Kim Poole – In section 8.6, can parties be capitalized?
- Christine Kowbel – Canada is not considered as a TAG party so it shouldn’t be capitalized

Section 9 – Community Participation

9.1. Agnico Eagle will work with the Kivalliq Inuit Association, the Kangiqliniq Hunters and Trappers Organization and any other Hunters and Trappers Organizations that wish to be involved to make reasonable efforts to coordinate the work of the TAG with programs for Nunavut community participation and collection of IQn, IQ, TK, CK, and/or InK.

- Jeff Tulugak – In Section 9.1, was NTI considered?
- Christine Kowbel – NTI was added.

9.3. Agnico Eagle will work with Sayisi Dene First Nation and Northlands Denesuline First Nation to ensure that their communities receive reports prepared by Agnico Eagle on the TEMMP in a timely manner and are communicated in ways meaningful to Dene.

- Jeff Tulugak – In Section 9.3, add “clear” after meaningful.



Section 10 – Communication

10.1. Agnico Eagle will provide timely information to the TAG to ensure that there is engagement with the TAG at the earliest opportunity when actions are considered with respect to monitoring programs and mitigation measures that will be developed or amended. Notice will be provided to the TAG prior to submission of any substantive revision of the TEMMP to the NIRB.

- Bradley Pirie – GN feel that TOR would benefit from glossary and acronyms list.
- Robin Allard – For AEM it's not necessary, all acronyms are clearly defined.
- Jonathan Katz – For KivIA it's not necessary.
- Kelly Olson – It's a question of style and is not substantive so no preference on that mater.
- Daniel Haney – What is meant by advice for instance?
- Christine Kowbel – Advice is defined by a TAG majority; Recommendation is defined when everyone agrees as per Sections 3.2 and 3.3. Proposes to add 7 business days to the notice provided to TAG before submission of the TEMMP to NIRB based on participants inputs.
- Robin Allard – Proposes that by January 15, all Parties give their agreement on the TOR.
- Kelly Olson – Due to the holiday period proposes January 31st.
- Lonny Syvret – Agrees with January 31st but we don't want to further delay the waterline, the community wants the project to move forward.
- Robin Allard – Will talk with Baker Lake HTO and present TOR information

4. HTO Items of interest

Speakers: Eva Elytook, Baker Lake HTO, Benji Denechezhe – Northland Denesuline First Nation, Geoff Bussidor – Sayisi Dene First Nation

Robin Allard – Baker Lake HTO and other Parties are welcomed to get involved into the process at any time not only at this specific dedicated period. This agenda item is to allow them to discuss about any topic they would like to discuss.

4.1 Eva Elytook, Baker Lake HTO

This is Eva's 1st time at the TAG. Baker Lake HTO asked her to join a meeting in Winnipeg but she didn't know what it was. They said that her husband used to be involved in the Meadowbank TAG. Her husband and her used to talk about this at home. She had a lot of questions. She is a member of Baker Lake HTO since January 1st, 2022. Baker Lake HTO is a Party at TAG. She did not understand what TAG means but she expects to understand better issue in the future. Her granddaughter thought it was the game. She looked at old documents from her husband and has a better understanding of what it means. She knows that they are talking about caribou.

They have all year around caribou. But when caribou herds arrived at Baker Lake, there are lots of hunters. Caribou are walking coming from the Northwest to Baker Lake. There was a lot of caribou this fall according to people. She sees herds and has seen them in the past – they have walked through her parents and her in laws tents.

Eva mentions that the Agnico Eagle road closed in October and that her people have the right to hunt, and no laws allows to stop them.

Eva mentions she prefers talking in her language.

She is happy to see all participants and doesn't have more to share at the moment but if she does she will intervene throughout the meeting. She hopes to meet Benji, Geoff and Jeff again and thanks everyone.

4.2 Benji Denechezhe, Northland Denesuline First Nation

Benji worked with FN groups to get where they are at and work with the TAG and reflects on how things are interconnected and they are glad to be here to be amongst the TAG. We need to try and do our best to work with each other. Each individual knows what to do as part of their organization and communities from his Party's perspectives.

Benji's people from the Northland rely greatly on caribou which have always been a part of their life. When they have had concerns about the caribou, the Dene got involved and they use their voice to work collectively with organizations on how to protect the caribou.

Historically people have been displaced in the early 1950 because of one photograph taken of slaughtered caribou by the government. The Sayisi were accused of slaughtering them and were taken to Churchill where a lot happen, cultural and environment differences, violence, substance abuses.

Years later, they come to a place to talk about protecting the caribou, when they talk about caribou, it come from heart, it's a very sensitive topic and they want to have a voice, to be heard so they can maintain their way of life. TAG needs to be working together.

Relative to caribou that were tagged with collars, Benji would like to propose changes on the collaring methodology as he has concerns about the weight of the collar and wants the process to be mindful of the animal

4.3 Geoff Bussidor – Sayisi Dene First Nation

Geoff's involvement with caribou dates from the mid-1970s. Caribou population started to decline and there were concerns. He worked with the Manitoba conservation branch doing aerial surveys and working on caribou and wildlife projects. They went to each community, some of which had no hotels, in one case, they had to stay in the RCMP trailer.

Geoff's grandparents raised him and told him stories about pre-contact days and caribou and dene living together and coexisting. When the caribou left and did not return, a person with special abilities to communicate with bugs, Edeguwe, was asked to find the caribou. He found the caribou were out in the open water, at their crossing area, and the animals that were decorated were holding off the other caribou from coming ashore. There was a thunder bird nest near this place, and the thunder bird sent thunder past where the caribou were and chased the caribou to the shore. A calf went with Edeguwe and the mother followed the calf, and the rest of the herd followed, back to the people. This is an old story but it's informative of the respect there should be for the caribou.

Geoff's grandfather spoke fluently in Inuktitut and grandpa set net on the river sometimes, and sometimes on the bay, he occasionally caught seal. He mentioned that the Sayisi Dene also harvested beluga for the whaling plant, while it was in operation, in collaboration with people from the area. One of the elders, that is in her 80s, said that whatever happens to the land, make sure to protect the coast.

They use that coast when there was no caribou, and food was hard to come by, they would go out and set their nets and have this as an emergency food source location.

Geoff mentioned that living in Churchill was like being in a war zone, it was like existing in survival mode and an awful experience. People are still struggling with the effects for being moved forcefully by the government; the consequences are multigenerational.

5. Revised Collared Caribou Meliadine AWAR interactions

Speakers: Daniel Coulton – Presentation

Stephen Atkinson – Revision and recommendation that were made from KivIA, Dene, and GN would require a new analysis. It would be preferable to move forward with new analysis. Access the collared data is needed, everyone agreed this would be an analysis of data, not an analysis of images.

Dan Chranowski – The Dene shares that position; a new analysis is needed with the access to the data.

Kim Poole – Agrees it makes no sense to push forward for this document without the collar data. It would be useful to define deflection so that when the data becomes available everyone is ready to move forward. The data sharing agreement should be discussed.

Daniel Haney – GN is willing to share the information within the context of a data sharing agreement, would like legal council if this point needs to be further discussed.

Robin Allard – The agreement is nearly completed; everyone agrees that we would like the data to be shared; proposes to focus on the memo.

Stephen Atkinson – there is not much difference between C38 and TC 44 and Parties are aligned. This is a question of objectives and having the end points – the discussion should be on what the analysis should look like.

All – Agree TC44 is completed and a new memo will be completed once the data is available.

Daniel Coulton – Given the TAG agreement on fulfillment of TC 44 and C38 and that the focus should be on the new analysis once the data is available, proposes to discuss the new analysis.

5.1 Objectives

Anne Gunn – The objectives of the analysis and the size of the study area need to be clarified.

Daniel Coulton – TAG will determine objectives.

Stephen Atkinson – The objective is to understand which of the responses occur and how frequently. How do caribou respond to roads, do they avoid, cross, or turn around in opposite direction. What is the 10% TEMMP threshold based on? Another question is to get a sense of the Road and Project Zone of Influence (Zoi) of the road Project based on FEIS.

Anne Gunn – Understands Stephen's objective relative to the road but the mine site was missing from initial analysis and needs to be considered. Caribou respond differently from activity than linear structures. They cross and deflect. The analysis should take in account the sequential response.



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Dan Chranowski – Caribou movement patterns appear to indicate avoidance; paralleling is a delay. A straight line on a map doesn't mean a straight line, in reality. Caribou don't always walk in a straight line and might approach the road several times and go away. Delaying migration and caribou movements is big concern for Dene and more information needs to be collected. We need collars, meteorological data and actual field observations.

Jeff Tulugak – Delays and movement pattern are monitored. Weather conditions are a factor, personal observations indicate that caribou won't cross the lake if there is ice on the lake; this has varied from year to year since Jeff has started monitoring in 2012.

Kim Poole – We need to clarify the right scale of examination, the main criticism is the 1.5 km LSA. From collar data, the decision is taken at a greater distance than that.

Greg Sharam, – Agrees with Dan and Kim about looking at the effect of the road but what are the other caribou doing? What is the natural movement pattern of caribou? We need to get a context to answer the question while comparing the effect of the road, what are the 10% turn around. Is it what they would be normally doing? Is there an increase from terrain behavior or parallel?

Stephen Atkinson – Agrees with what normal caribou movement is and refers to John Boulanger's analysis using 2 methods correlation and regression (change direction of movement) as they get closer to the road. Comes back to 2 objectives, understanding the actual movement and behavior when they are interacting the road and the project and what is the zone of influence is.

Stephen sent a figure from John Boulanger Meadowbank collar analysis that shows a significant density of collars of the upstream side of the road and lower on the downstream of the road and expresses interests relative to delays in migration.

Relative to the scale, 1.5 km is not appropriate scale to caribou response to road. FEIS of project is 5 km.

Dan Chranowski – supports the fact 1.5 km LSA is too narrow.

Anne Gunn – In spring migration, the cow is motivated early post-calving. Early on, the cow will be more protective and more responsive. This will play a role on the 1.5 km scale as a proper scale. Mosquito harassment is also a strong indicator of movement. During mosquito harassment, the group size will be a significant factor on movement rates and the amount of turning. The proximity between collars as they approach the road and their response should be considered.

Eva Elytook – Eva has been studying caribou since 2017, with the road that goes to. In 2014, Eva told her husband that they are afraid of the road. The caribou go back and forth looking at the road and she wonders if the road is stopping the caribou and if the boulders on the side of the roads could be smoothed to help the caribou climb.

We study caribou with our eyes, elders told us that the caribou were here and Inuit should help monitor and study the caribou, Inuit knowledge is important, Inuit will use eyes and minds when looking at the animals. Caribou walk on land, creek, wherever they want to go, where they want to be. Sometime herds get killed by ice, water causes most of the caribou issues. Animals are studied by looking at them, it's easy to say if caribou are hungry or not hungry.



My grandson was at Baker Lake, caribou migration is not harassed by the mosquito, they didn't stop. 5-20 caribou ran away but the herd did not, they won't stop. Bugs won't stop them, even millions of bugs. This is what IQ knowledge is. We are trying to tell people, get Inuit be involved in study. Use Inuit eyes. Try to get involved in the process.

August, September, and October, there were herds that wouldn't stop but now they stop by the road. Don't know where they want to go now, wondering. I have seen herds as teenager to Baker Lake. Caribou were still going. Man will make them stop. Now it's brand new for them. This is how much we study caribou, grizzly bears, wolf, fox.

Dan Chranowski – Thank you for your observation and it shows the value of on-land observations. Actual caribou movements including deflection, delays and paralleling the man-made road barrier should be compared to natural landscape movements We have a man-made barrier, the AWAR. What is happening here should be part of the new analysis.

Stephen Atkinson – Objectives capture most of concerns expressed relative to caribou interaction with the project. First would be the zone of influence and the second would be looking at the movement of the caribou. There is an interest in looking at delays (time, distance).

Relative to caribou paralleling the road, one of the methods of John Boulanger's segmented regression approaches is the caribou angle of movement relative to the road as function of distance from the road. If caribou are close but parallel several 20° instead of 90° can be done.

Jeff Tulugak – On insect harassment, there is a lot of mosquitoes and flies that the caribou are going to walk through. They will walk toward the wind and keep going. The weather won't be a factor.

We are talking about the summer migration but caribou all year long and coming in the fall season are important for the community members and should also be considered.

Pause between 15:10 and 15:30

Lonny Syvret – Following up on the data agreement. There was a lot of back and forth between GN and AEM, but is should be ready around mid-January. There is a good collaboration between GN and AEM.

Corey de le Mare – Study objectives summary

- Looking at Zol at the time of the year along the road and project
- Considering proximity of Rankin Inlet and community
- Step regression to be determined with movement
- Time and energetics
- Caribou behavior such as walking parallel
- Caribou that interact with road and caribou that don't
- Understand movement at spring and vs post-calving
- Response to mine and road
- Proximity between collared data with road
- Ice on and off
- Landscape and orientation; Herd Meliadine Lake one side or the other
- Hunting pressure analysis
- Caribou by observing data type and monitoring (HTO).

Kim Poole – Meadowbank analysis are available; the 2nd revision was done unless another revision is underway Stephen?

Stephen Atkinson – Yes, there was a 3rd revision which was submitted for publication with the Journal and Wildlife Management and was primarily accepted with few changes. The revised version will be out in February. The outcome of the analysis is the same, they are few extra pieces that were added, but it should be available shortly. Can ask John Boulanger to share a version of it.

Kim Poole – What is the influence of caribou distribution and abundance around the site disturbance, are we still talking about the zone of influence?

Dan Coulton – There is mention of testing assumptions around indirect effects predicted in the FEIS, those were predicted around zone of influence based on distribution and abundance but not movement. These are 2 different things.

Stephen Atkinson – It depends on what is considered as zone of influence, typically zones of influence are assessed using density and distribution. This doesn't mean you can't assess a zone of influence based on distance of movement of impacted animal. It is more appropriate for animal in migratory phase because with the typical approach, we will get some results of caribou being held by road. High density close to the road and low density away from the road which is the opposite of what is expected. This is why John Boulanger used movement metrics in his paper to estimate the zone of influence.

Dan Coulton – Not saying that is not possible to use some movement metrics to assess the zone of influence. The objective is to assess indirect effect as indicated in the FEIS, we need to use the same metrics which is based on the change of distribution and abundance, if we want objective results compare to the FEIS.

Anne Gunn – The zone of influence will be skewed circling around a source of disturbance. In this case, the caribou are approaching a road, but the landscape, lakes, and eskers will skew the shape and the extend of the zone of influence. Need to find way to be considered in term of mitigation for caribou where they initially start as response measures and making sense of the variance of the surrounding that will be important in term of mitigation.

In term of design, caribou tend to cluster to step in close to disturbance as they are more vulnerable and see how they pool naturally. Verify if their approach is similar to a river approach and considering the distance where decisions/behavior prior the approach. Look at how the behavior changes as they approach the river and compare with how they approach naturally compared to road.

Stephen Atkinson – The approach that John Boulanger took at the natural behavior was to narrow dataset to collared caribou that came less than 10 km of Meadowbanks Road then use the data for these collared individuals at the distance of 160 km from the road. Is it aligned with Ann's thought?

Anne Gunn- 160 km distance is far, thinking more at a 30 km scale. During spring migration, the dynamic of the group size and insect behavior will be different.

Stephen Atkinson – On the issues of response to insects, is wind speed and direction being use as covariate as in high wind speed the caribou will be more able to walk into the wind than at low wind speed.



Anne Gunn- Data on windspeed at ground level and temperature. Those can be combined to get index about mosquito harassment. Just need to ask people of Rankin about how those fits with timing of mosquitoes. The tricky part is that mosquito harassment typically dropped in the evening. The different time scale for collared data and index of mosquito harassment.

Dan Coulton – What dataset are you using?

Anne Gunn – MERRA dataset, it is corrected. Some other ones available that are more detailed.

Dan Coulton – Familiar with MERRA, we have the daily values, but the spatial resolution is massive. For example, 28 km buffer will only have 2 or 3 values. The resolution is $\frac{3}{4}$ degree longitude and $\frac{1}{2}$ degree latitude.

Anne Gunn – Can use Rankin Inlet and Met stations at site will give a scale to work at, it will be fine.

Robin Allard – Where does this bring us? We revised the collared data AWAR crossing memo with the data we have. AEM is willing to work on improving it. The commitment has been met since we drafted the memo, submitted for comments, and was revised. Is there more work to be done to complete the memo. With the data available, the memo was completed.

Dan Chranowski – Yes but there is a dispute as per the definition of deflection. We had general discussion, but we are looking for a new analysis. Based on some concerns and feedback received, this is what we want to see incorporated. We are waiting to get a final analysis with new data once DSSA is signed.

Robin Allard – would a good path forward be to integrate what we have and come up with a proposed revised memo to satisfy everybody? We can get ahead and get the design with the feedbacks we received today. Would it be a path forward.

Stephen Atkinson – A way to do it would be to take the notes that was put together now and summary. Get ideas and more clarity of objective amongst the TAG. Set up phone call to get consensus on the approach and the methods.

Dan Chranowski – Would be nice to get the information in writing to inform for further analysis. We could get something in writing that TAG will provide feedback. It would help the process to get forward.

Kim Poole – The memo was written in 2021 and can be put to bed. The Consultant will have a cleaner method of assessment from notes and feedbacks. Onboard to go forward and start over with a focus on the AWAR.

Stephen Atkinson – Believe it is reasonable that TAG would agree that TC44 is considered completed with the commitment to conduct a new analysis which will be more meaningful based on the proper dataset once the DSSA is signed. The TAG would approve the draft version of the new memo. The new analysis would satisfy recommendations.

Dan Chranowski – The Dene agrees with new study instead of revising memo. The size of study area should be centered around the mine and the road. Need to be looking at movement to see if there is difference between man-made and natural disturbances.



Anne Gunn –The study area should be extended according to calf age because 3 weeks is when the cows get their peak lactation and rely on urging to produce milk. During that period, 3 weeks, the cows are vulnerable to minimize disturbance related with energetics. Also calves in large group during disturbance can get easily knock over or get lost.

Dan Coulton - 3 weeks based on bird parturition model to predict calving date. Calving date can be easily figured out based on the fact that the calves don't move much; then there are other factors: The mosquito harassment, the group size and average duration of mosquito season. Soon after calving seems to be around site 15-25 July. The calves are getting out of young dependent phase. Post calving study area and then fall range. Mosquito peak is around mid-July

Stephen Atkinson – Need to get simpler analysis then opportunities to get caribou information. How much could be done from the Meliadine extension project. Can get any results during that review. Assuming the data is available, what is the timeline to get analysis done. Based on the first analysis then could proceed with further analysis. Follow up with TAG will decrease the comments and keep people informed.

Dan Coulton - What is the calving ground distribution then be useful to know what the study area would be.

Jeff Tulugak – Young of the year calves are at site around 1 week to 1.5 weeks old.

Conclusion : Consensus around the room that we can consider TC44 completed with commitment from AEM at TAG that a new analysis and memo be done, once data is available, and considering comments from Parties.

Notation per 6.2 of the TAG TOR: SDFN/NDFN wishes to add the following editorial comment to these minutes, which was not stated during the meeting: "At this time, SDFN/NDFN do not agree that TC44 has been fulfilled/satisfied with respect to the collared caribou memo. It may be satisfied once the new analysis by Agnico Eagle is shared and discussed with the TAG, based on updated data and comments discussed between the members of the TAG."

6 Roundtable – Day 1

Geoff Bussidor – If calving is between June 10-14th, is rut time changed?

Dan Chranowski –There appears to be collaboration to do the right thing to keep caribou around.

7 End of meeting

Topic: Day 2 - Meliadine Terrestrial Advisory Group - Agnico Eagle

Meeting Date: December 16th, 2022, 09:00 AM- 17:00 PM

Location: Courtyard Winnipeg Airport and via Microsoft Teams (teleconference)

Attendees: Jeff Tulugak – KivIA
Craig Beardsall – KivIA
Kim Poole, RPBio. – Aurora Wildlife Research – Online
Caribou Specialist (KivIA)
Anne Gunn – Caribou Specialist (KivIA) – Online
Dan Chranowski – Matrix Solutions Inc.
Wildlife Biologist (Northland Denesuline and Sayisi Dene FN)
Eva Elytook - Baker Lake Hunters and Trappers Organization
Raymond Mercer – Nunavut Tunngavik Incorporated (NTI)
Daniel Haney – Government of Nunavut (GN)
Manager, Land Use & Environmental Assessment– Online
Bradley Pirie – GN Project Management – Online
Kamil Sameer – GN Project Manager, Impact Assessment
Stephen Atkinson – Biologist (GN) – Online
Robin Allard – Agnico Eagle (AEM), Community Consultation Specialist
Lonny Syvret – AEM, Manager-Public Affairs
Sara Savoie – AEM, Environment General Supervisor
Helene Boulanger – AEM, Environment Specialist
Randy Schwandt – AEM, Environment Coordinator – Online
Dan Coulton, RPBio. – WSP/Golder Sr. Wildlife Specialist (AEM) – Online
Corey de le Mare – WSP/Golder, Sr. Ecologist (AEM) – Online
Scott Wilson P. Biol., RPBio. – WSP/Golder, Biologist (AEM) – Online
Greg Sharam, – ERM Wildlife Biologist (AEM) – Online
Nina Morrell, RPBio – ERM
Wildlife Biologist and Spatial Analyst (AEM) – Online

1. Meeting start

2. Day 1 recap

Robin Allard – Set foundation for TAG with meaningful discussion and happy with how things are going. Asked if there were any comments or suggestions for improvement; none were put forward.

3. Operation Update

Speakers: Sara Savoie – Operation Update; Helene Boulanger – Overview of waterline project

Dan Chranowski – Why wouldn't the waterline be covered?

Robin Allard – The majority will be, however some sections related with water crossings like the bridge can't be covered. Some areas are too swampy to be covered. That are the 2 main reasons why 20% of waterline is not covered.

Dan Chranowski – Is there any watercourse crossing identified as a caribou crossing?

Robin Allard – There will be on bridge. The waterline will be attached to the side of the bridge and not in the water. You will see the layout on the bridges and why they cannot be covered.

Kamil Sameer – The waterline construction is expected to start in spring 2023 so is it March, May, June?

Robin Allard – As soon as we can but still depending on the TOR and bringing over the pipe to begin construction starting from Itivia.

Kamil Sameer – It might be in the FEIS, there are two kilometers, there is 34 km and there is 24 km. the 20% that exposed is that from all of it or is just the 24 km?

Robin Allard – That will need to be checked, I think is it on the 24 km.

Dan Chranowski – We are looking at the 24 km. So where is the extra 10 km ?

Helene Boulanger – It would be the section along the Bypass Road, there is also a section at the mine site. From the map, the waterline is located along the AWAR until about KM 4 then it turns along the Bypass Road until Itivia at the diffuser then into the Bay. The waterline will be located within the 30 m of the right-of-way/easement of the roads.

Dan Chranowski – Was it a request from the Rankin Inlet to have the Bypass Road to reduce traffic?

Robin Allard – The Bypass Road already exists and is being used. Bypass Road came from an agreement with the Hamlet of Rankin Inlet.

Kim Poole – We noticed in the wildlife reports that the KM don't align sometimes as in the report KM 17 is 22. It was mentioned to Corey. Going forward, all references to KM especially for crossings should be aligned properly with the KM along the road as long it is standardized.

Helene Boulanger – Should try to keep consistency as much as possible. Will need to respect the kilometer divided by road (AWAR, Bypass Road) to avoid having different KM for a specific area and be more accurate. Over time, the road can have minor changes but need to keep consistency.

Robin Allard – It's because for some reports, construction chainages were used then transferred in KM. There are some discrepancies in the way km are reported, it needs to be improved and trying to find way to make sense. Is it better to change the whole thing but creates other issues to make it better and be more consistent with that approach.

Kim Poole – We appreciate that.

Jeff Tulugak – Is there a potential for a 3rd waterline as part of the layout and crossing areas? Is there a consideration to shut down the pumps of the waterline during migration, if vibration of the waterline affects the migration? Is there a potential of repumping water into Nipissar Lake for community supply before pumping salt water into the waterline?

Robin Allard – About Nipissar Lake, it is not considered at this moment. Had brief high-level discussion with CGS on it because their line may need to be improved. CGS seems to want to do their own thing at this moment. AEM will not be involved at this moment into feeding or rising the level of Nipissar Lake.



As for a 3rd line being added, I don't know if it was considered or possible with the design we have right now, that would have to be confirmed with the construction crew.

Jeff Tulugak – Was wondering if the flow will have an impact on the migration, was shutting down the waterline was considered during migration period?

Dan Chranowski – Can the water coming from the mine site have enough gravity pressure to go downhill without a lift station?

Robin Allard – There is one or 2 lift stations, I don't remember exactly where is, KM15 maybe.

Jeff Tulugak – KM12 is a caribou crossing area

Robin Allard – Can't commit saying that we will or won't shut down, but we considered adjustment during the migration depending on local observations and work together to see if there is an impact.

Dan Chranowski – Suggest that road naming protocol, could it be: for the Site "S KM 0 to ..", Bypass "B KM 0 to .." and AWAR "A KM 0 to ..."

Robin Allard – Noted, we will find an agreement.

Kamil Sameer – Construction phase – do we have all the material near on site or will be shipped in 2023?

Robin Allard – We have a lot of material on site. We were ready to start the construction in 2022. Where the pipe will be laid down is crushing material. We have some of the pipe being stored at site and ready to deploy. We still have some equipment that need to be brought by the barge for example the horizontal drilling for the diffuser. But most of the material is available for start on short notice. Began to crush materials into stockpile for all the mine site needs, not only for the waterline but also other project like road maintenance, potential Discovery Road construction.

Kamil Sameer – Vibration impact; is there any monitoring of vibration along the line?

Robin Allard – We have system along the line that monitor vibrations throughout the whole line. So, any peaks of vibration, the system are recorded it and we can identify signature vibration as leak or wildlife passage. This is our main system for leak detection.

Kamil Sameer – Could this be used to determine if caribou are impacted by the vibration, if they detected/feel the vibrations?

Helene Boulanger – We expect the vibration to dissipate with distance,

Robin Allard – All the data will be there but is more a matter of finding significant value.

Dan Chranowski – When you discussed the system detects vibration, can it be implemented? We want to know about the waterline vibration, because it's something that caribou will be crossing, or attempting to cross so, it would be valuable to address at the TAG.



Robin Allard – Yes, and it's a good channel to see how we could improvements. We have some background of how we want to use the system but we have some tweaks that we can do with the system and maybe some will answer our need.

Dan Chranowski – The type of covering that is being planned to address vibration and noise needs to be discussed at the TAG.

Robin Allard – Will also dissipated vibration, so type of covering helps the top portion to dissipate vibration better.

Kamil Sameer – What is the 3rd water line?

Jeff Tulugak – Want to minimise discharging to Meliadine Lake, and 2026 the amount of water that will be discharging will be a lot and we don't want any discharge in Meliadine Lake so we would want an additional waterline that goes from the Meliadine site to Melvin Bay.

Raymond Mercer – What will happened if there is an underground leak in the waterline?

Robin Allard – This was considered during the assessment of the waterline so we do have a Spill Response Plan. We delimited the impact zone and concluded that it will be very small area and along the road. We will still have to remediate and respond to that spill.

Raymond Mercer – Is it salty enough that it will kill all the vegetation?

Robin Allard – It may slow down the growth, but it will not create a massive impact. It will eventually grow back. It was not assessed that it will be a mortality of vegetation because of a spill. It will be impacted but it will be back to normal.

Jeff Tulugak – I know KM15 is an interesting place for community to get clouds berries. Is there a way to protect the berries? Is there a way to minimize the potential impact of the waterline?

Robin Allard – We are confident that the way the system operates that we will be able to do the maintenance, have no incident, and the leak detection will stop quickly enough to take actions.

Dan Chranowski – We understand that there's a system that should lead to a quick response in case of a leak; our concerns are about the containment. Caribou calves could possibly be drinking that spill. Is there a shut-off valve along the waterline to control the leak?

Robin Allard – The control is made naturally by the layout of the land, so when we stopped the pump, because of bends going up and down, sections of the line wouldn't get water. The isolation valves are made naturally by the design of the waterline along the route following the layout of the land.

Dan Chranowski – So I understand that spill containment will depend on where the spill occurs and the severity of it, because of the layout of the line on the land?

Robin Allard – Once the water is passed it wouldn't impact this section. Once it's gone over the hill, it can't come back.

Dan Chranowski – I would suggest that extra spill protection and containment measures could be installed & used; all sorts of technology available (e. g. extra sheathing at line connections)

Robin Allard – We also want to make sure we can do the maintenance, inspect and verify. If it is covered, we can't do that. We could put a layout underneath the line, but it will have more impact. It a trade-off between disturbance of the land.

Jeff Tulugak – What about sensitive or specific areas

Robin Allard – It is not what was approved in the waterline. Not saying that we can't do it, but it is not our intent at this point. It can be brought to our team but it we need to change the design of the waterline that we need to submit to Permitting with regulatory delays. Don't think is the best at this point if our intent is to limit discharge to Meliadine Lake and make sure we want discharge as soon as possible into Melvin Bay.

Raymond Mercer – Could a sheeting be installed under the line?

Robin Allard – This could be a solution, but we will need to pump the water that is collected, like rain and snow runoff, so that is another problem. Need to be managed.

Dan Chranowski – We would be interested to see 3D schematics, plans, contingencies for the waterline and roads. Geoff requested the same. Clearly, AEM should be committed to adaptative management. So, if we don't know yet, there still could be future spill response & containment actions that may be necessary.

Robin Allard – We would try to find a way to put adaptative management if needed it in a way that we don't need to open the permitting door and complicated things. That why we have the TAG, so we can discuss about it.

Kamil Sameer – What if the spill arrives in the middle of the migration? How fast can we get there?

Robin Allard – We would have to read the details of the Spill Response Plan, but it was assessed.

Sara Savoie –Response for a spill or a medical situation during the migration is an exception.

Dan Chranowski – From what I recall, a spill during caribou migration was identified as an emergency to respond and would be contained as quickly as possible

4. Caribou Migration 2022 highlights and collaboration

Speaker: Sara Savoie

Randy Schwandt – Happy to be resuming the great cooperation between the Mine, KHTO and KivIA during the 2022 caribou Migration

Jeff Tulugak – A lot of changes have been made over the years such as removing the flags on the AWAR.

Kamil Sameer – Are Meadowbank using the flags?

Robin Allard – Migration at Meadowbank is different from Meliadine. Migration at Meliadine is June-July, so there is no snow.

Dan Chranowski – What would Meliadine waterline markers look like?

Robin Allard – Fixed.

Dan Chranowski – Was there any phone conversations with the Dene First Nation during migration?

Sara Savoie – Dene First Nation were copied in all the caribou maps that were sent during the day, 3 times a day.

Robin Allard – Benji, Geoff and Kelly received the emails.

Raymond Mercer – Just a quick statement, it was Daniel talked about the flag moving, I think we all know where AEM is coming from, they push toward production. This group is working very good. The shutdown of the road has worked. Growing up, the caribou used to migrate every 7 years at Rankin then changed to 4 years and now it is every year. It is working and working better and better.

Sara Savoie – Thank you we appreciate the comment, and we are very happy to keep this collaboration alive and always improving.

Dan Chranowski – If a group of 50+ caribou observed outside of the 5 km zone approach the road, can activity still go on until they are 100 m from the AWAR?

Randy Schwandt – If 50+ caribou are outside of the 5 KM radius but heading toward the road, we always have one of the Environment employees and this year, a KHTO member monitoring the road at the same time to get a viewpoint from North and from the South. If the caribou seem to be moving away from the road, the caribou are monitored but if they are staying still on the road, we have cancelled planes over the years.

Jeff Tulugak – There is also a possibility to stay stuck on the road.

Kim Poole – Detail slide 9

The explanation of how or why it happens is very detailed. The level 3 road closure is only triggered when there is 50+ caribou least of 100 m from the road. Based on experience, that seems very late as the animal are taken decision far further up than 100m, especially when the leaders are crossing, because when the leaders cross it facilitates the crossing of the herd. Is that criteria should still be used when pull over to trying to reduce the disturbance as barrier effect of the road. If the protocol is further out it might encourage more animal to approach the road and attempt to cross it.

Anne Gunn – The protocol is very detailed but how effective it is? Distance and group size need to be tested. Data should be presented in the annual report in the figure like Meadowbank does indicating the caribou number per day of crossing and when collared crosses. The annual report needs to be as detailed as the protocol.

Sara Savoie – Regarding our protocol, we can decide road closure before meeting the triggers on a case-by-case basis and following recommendations made with KivIA. Depending on the movement observed, we might decide to close the road if animals are seen further away but have the potential to cross the road. As mentioned, we want to avoid vehicles being stuck on the AWAR. We minimize the traffic along the AWAR during that time.



Randy Schwandt – On the AWAR, the road is lower to the ground compared to Meadowbank. All transportation needs to be approved before going on the road even if the road is open. For example, we are moving sea-cans to Itivia, the road is a flat level where you can see a very large distance at the exception of KM16 and specific blind hills. Prior caribou migration, toolbox meetings are conducted, and we talk to the drivers. They are aware of if any caribou are crossing the road they need to stop even if it is only 1 or 2 caribou. I feel we did very well on that. Drivers are very well trained.

Jeff Tulugak – I know when a caribou wants to cross, vehicles stop and give caribou the right of way. We don't have it in writing. We know if you are on site, what will happen, but if the team changes there's concern about how the protocol would be followed.

Kim Poole – Want to have it written down. From collared data, the animals take decision about approaching and crossing the road at distance further than 100-300 m. If the distance was longer, there would be more animal crossings. I know the Meliadine Road and it is a lower grade road compared to the other in the Arctic. It is the disturbance to the animals, the visual of the truck, pickup, hunters. Will be more important when Discovery opens. For the first time, there will be haul trucks going back and forth to the mine site. Those will be much bigger and much often than what you see on AWAR at this point. I suggest we test more and reported more.

Anne Gunn – The criteria of success, is cows and calves crossing the road and not delayed which related to Kim's point about how the caribou take the decision further out if they are moving forward to approach the road or to move parallel to the road. It comes back to using the monitoring data and report it to see the effectiveness of the protocol.

Kim Poole – Caribou can see a long way too so they can detect movement on the road from quite far out because of the flat landscape. They can see the activity along the road at 800-1000 m of it and trigger decision if they approach it or not.

Dan Chranowski – A traffic suspension protocol is in place with a decision tree. Site judgements are made at the field level, and I agree with Jeff that we would like to see decisions documented. Therefore, a good field judgement that is made regularly about a certain type of conditions should be documented. By having this on-site decision documented, could help to adapt the protocol.

Kamil Sameer – How flat and how far can we see on the AWAR and what distance a caribou see?

Jeff Tulugak – It is very flat we can see kilometres in front of us.

Kamil Sameer – Do caribou have a better vision than us?

Helene Boulanger – Not from what I read from the literature. Their short sight is good but not the far sight. Might not necessarily be the sight that will establish if they 'see' us but based on other senses. What do others think?

Eva Elytook – Caribou can see from far. Grandparents built skinny inukshuk and caribou can see them from a good distance.

Anne Gunn – Use of fence to effectively herd caribou at several hundred meters. Cows with young calves will be very responsive and reactive. The sight will be important, smell and hearing too. But recent monitoring in development of technologies would allow to understand what caribou hear. Caribou are visual creature.

Jeff Tulugak – The calves get spook easy from a long distance, the rest of the caribou will be spooked.

Robin Allard – These are some improvements that could be made like a revision of the TEMMP and part of the mandate of the TAG to revise and have discussion. Decision based on collared map and want to keep eyes on the field as adaptive management. We want to make sure that the field data improve and is consistent. That's why we need to consider not only one version. We want to make sur that we log that a more efficiently way. Reason why we do pre-migration meeting with staff, all departments, communities, and stakeholders. We discuss ahead of time, and we are all on the same page and try to keep consistency. The documentation should be through the TEMMP.

Jeff Tulugak – The convoy are led by KivIA, HTO or department of conservation. They make judgement call to proceed or not.

Dan Chranowski – Due diligence is important and I agree with you that field judgement and collared data should complement and inform each other towards improving decisions and minimizing the disturbance of the caribou migration.

Kamil Sameer – 2022, How many shut down happened and what is the duration of it?

Sara Savoie – I have a slide on that.

Kamil Sameer – During shut down, how many essential traffic happened?

Sara Savoie – One occurrence, emergency extraction during shut down.

Kim Poole – It is front head of migration that I have concern with. That's when the first animal close to the road and shut down. For this coming spring maybe try an experiment for the first few days change the triggers to less than 50 caribou and more than 400-500 m from the road to see how leaders are responding. Shouldn't have an impact on operation as their number are coming it will be in shut down. It might advance the shutdown. It might encourage animal to come through. When is TEMMP revision due?

Robin Allard – February 2023

Jeff Tulugak – We have been using during the migration the fishing derby that is starting right before migration as a trigger and there are people out and they are usually the first eyes on site to see caribou. KivIA and HTO gets up before caribou get close to Meliadine.

Sara Savoie – presentation

Anne Gunn – There is a shifting of calves being exposed 10 days earlier compared to 2 years ago. It needs to be revised in the TEMMP and need to be considered in the monitoring report. Good discussion yesterday about the design for a movement study. Similar type of discussion as to the content and structure of the annual monitoring report. Discuss in advance what need to see in the monitoring report. As a reviewer, there will be less comments and be more efficient. Describe the effectiveness of mitigation.

Robin Allard – What timing would it be for covering monitoring changes for oncoming report? When do you want to have a discussion about how the annual report is presented, reviewed and done.

Anne Gunn – Work is already on the way but sooner the better. Over the year, similar suggestions and get delivered better but repeating the same points.

Kim Poole – Support Anne comment on this. The data is there. Slide 2022, the AWAR were closed for more longer than 11 days, but the hours don't add.

Kamil Sameer – Is the number of hours across 27 days or is it overlapped?

Sara Savoie – There is an overlap.

Kamil Sameer – How many days total were restriction or shut down? Is shut down only on one site or on all sites?

Sara Savoie – We can add a column with number of days of restriction or AWAR or site. We would be in level 3 at either Portal 1, the Industrial site, or/and Exploration camp.

Anne Gunn – On the column on the right, do you have any comments on why in 2 years numbers of day closure double, but the number days of the AWAR has not changed. Is there any change in caribou distribution or any change in restriction or threshold?

Sara Savoie – The 2022 report is ongoing; analysis is not completed. We would get that information in the 2022 report.

Kamil Sameer – During the AWAR shut down, is the mine operating?

Sara Savoie – Depending on the caribou distribution.

Raymond Mercer – I agree with what was said concerns the distance, the threshold. Animals have stronger sense than human. Anywhere from vibration, feeling movement, to hearing, visual, smell. I agree distance should be increased distance for next 3 years or so. We are working for the next generation.

Sara Savoie – We are working in that direction for a successful caribou migration.

Kim Poole – Might be discussion about the TEMMP. Other concerns were at the hearing was the focus was at the post-calving period (late June and July) but what about post-migration period later in summer or fall. Is 50+ caribou trigger. Community was indicating that caribou were displaced by mine outside of post-calving period. Those caribou are important for the community.

Jeff Tulugak – Agree

Robin Allard – Will have to see if this is part of the Meliadine extension. Will be discussed.



5. Alternative Monitoring discussion

Speakers: Nina Morrell, Helene Boulanger

5.1 Presentation monitoring trail/trap-camera and behavior – Nina Morrel

Dan Chranowski – What is the daily fix interval of the collars on caribou coming from the calving ground.

Robin Allard – AEM receive the map once a day (business day)

Bradley Pirie – Depending on our geofence, it will be once or twice day but as they approach project, it increases to every 2 hours when interacting with Meliadine site. The maps are available once every business day but it can send over the weekend. We do it for Meadowbank.

Kim Poole – There is some circles but are 5KM within the site, what is not within those circles but within 5 km of AWAR; What are the implication of that?

Nina Morrell – This is not the same trigger from the site than from the road. Road is triggered by what we see from the road.

Kim Poole – The resolution of the collared data in 2021 within the geofence might be 4 hours.

Corey de le Mare – Both Meliadine and Meadowbanks are geofenced. Is camera geofenced too?

Bradley Pirie – All collars are geofenced at this time.

Anne Gunn – Who sends the maps, who receives it. Could we include this maps in the Annual Report because they are easier to understand visually in regard to caribou exposure that those to the threshold.

Nina Morrell – AEM Environment Coordinator does the map everyday working from field surveys and getting intel from other people on the field on site.

Sara Savoie – The Environment Department makes those maps (Env. Coordinator or Env technician). They are sent out through the Caribou Migration Alerts discussed previously, and they are sent site wide to all Meliadine employees, contractors, HTO, KivIA, Dene First Nation, GN, CIRNAC. They are shared by emails to all the stakeholders.

Including the maps into the annual report, it will be very heavy. We would need to evaluate the feasibility and the benefit of doing so. The annual report and its appendix are a balance as some stakeholders want more information, other want less but we thank you for your comment and will reflect on it.

Anne Gunn – 2 solutions to answer every stakeholder: add an appendix in annual report having several maps per page or have an online archive available to stakeholders that are looking for particular days or maps.

Sara Savoie – The maps are shared in real time; they are sent out 3 times a day so stakeholders have them in advance of the annual report.

Nina Presentation



Meeting Minutes

Anne Gunn – Pictures showing very young calves. In the report, can you separate the cameras that are the footprint of the mine site and from the road and considered them as separately. There is very little caribou reaction of the actual mine site considering that it is mostly shut down.

Nina Morrell – There was no camera on site this year as we opted to have more cameras on the road further South from the gate house (AWAR KM 12). I agree it could be great to get more site data. In the past, the camera at the mine didn't catch many caribou sightings because of bad location or have not seen caribou at site. But we have behavior surveys at site to back down the information.

Anne Gunn – GN animation suggested that few caribou go through, but they pile up from the south end of the mine. Maybe the fact that on the camera, you don't see many caribou is a result of this. To understand where the caribou have been and how they responded when being displaced. It's worth focusing on where the caribou is approaching and not going through or is not approaching the mine site.

Jeff Tulugak – Is there any photo of caribou crossing the Narrows?

Nina Morrell – Was not set up in 2022. We know that caribou cross the Narrows but have no pictures. We need a bit of luck or know exactly where they will be passing with those cameras.

Jeff Tulugak – Would be great to have cameras on both side of the Narrows to have picture on how they cross.

Dan Chranowski – Are all cameras placed on the same side of the road for the entire length?

Nina Morrell – Yes, they are located on the west facing North

Dan Chranowski – What is the model and make of the camera used? And how many pictures are taken in succession?

Nina Morrell – Bushnell 4HD; these are not camera that would survive the Arctic winter. They take 5 pictures for each trigger.

Anne Gunn – Have you considered having more cameras so can cover the water crossing and the approach of the mine site.

Robin Allard – More camera means more images to analyse, need to consider the capacity of the analysis. We do have option of using the technology, but not at all costs.

Anne Gunn – Understand that AEM is using AI and adding 10-20 cameras

Robin Allard – We started using AI but the process is not tested and fully reliable. We want to get there but it is not robust enough to add a substantial number of cameras.

Nina Morrell – To give you an idea, we have 1 terabyte of data for 3 weeks of data with the camera we have. Even of the AI technology, it is a significant expense.

Raymond Mercer – For the sensor camera, how far the motion sensor trigs

Nina Morrell – About 40 m depending on visibility and weather conditions.

Nina Presentation

Kim Poole – When referring to km, what km are these?

Nina Morrell – They are the kilometer marker (KM) that are along the road. The AWAR is going up to KM30. This is where the Meliadine mine site is. I went along the AWAR and with a GPS, I collected all the KM. This is what AEM is using.

Jeff Tulugak – Caribou that you observed crossing KM25 to 27 were heading NE?

Nina Morrell – the majority are coming from NW typically and going SE

Jeff Tulugak – So they will potentially be crossing the Discovery Road?

Kim Poole – I thought they were from the NE side of Meliadine through the Boat Launch close to Discovery Road then wrap around clockwise up to the mine and then goes East to West. Is that correct?

Animation crafted by GN for the Meliadine Extension Project could be useful for everyone to understand the movement of collared caribou.

Jeff Tulugak – The collared caribou won't catch some of them. The majority of collared caribou going Northward when the lake is frozen. Some come through the South end then cross at KM 25-27 then go East but they might not be collared but depends on the herd.

Robin Allard – When will the animation will be ready?

Kamil Sameer – Not ready yet but in process for Meliadine and Meadowbanks animations for community engagement.

Anne Gunn – How the caribou will modify the approach toward the road when the waterline will be in place and road will be widen. The height of road vs predictability of crossing might still be an issue with calves as they can be hesitant. How will the baseline be used if the road configuration change?

Nina Morrell – Waterline will be exposed at water crossing but caribou don't cross there.

Anne Gunn – Larger burden would change the road configuration with the construction of the waterline.

Dan Chranowski – Road height is surveyed and measured. How are you measuring road height?

Nina Morrell – Did survey every 100 m with height from the toe slope and angle.

Anne Gunn – Can you integrate road survey result to caribou capability to cross the road?

Nina Morrell – Have 10 hour of behavior survey over 3 weeks with 24 cameras along the AWAR, could use caribou collared data.

Anne Gunn – Is it possible to integrate data from road survey, behavior, collared caribou data, and AWAR camera photo?



Stephen Atkinson – Is it possible to get behavior road survey to indicate observations of caribou crossing road when close vs when open. Is it possible to indicate if the road is opened vs road closed to when caribou is observed.

Dan Chranowski – What is the caribou response behavior differences between ‘alertness & running’ versus ‘laydown & standing’?

Nina Morrell – More caribou seem to be disturbed within 300 m from the road. Disturbances is not only mine traffic. more vehicles are ATV from Rankin Inlet and 30% trucks (own), convoy, tracker trailers.

Stephen Atkinson – how are walking data response vs nonresponse. See parallel of the road or direction of travelling from Road?

Nina Morrell – Only have year of data that is collected about direction

Anne Gunn – What are the plans for next years?

Nina Morrell – We are at the point to answer some questions from when the road is open vs close road behavior. We will be getting behavior changes when vehicle fast, slow, or stop.

Jeff Tulugak – From experience, having slow vehicle driving would push caribou away. They would walk by the vehicle.

Dan Chranowski – Caribou can perceive movement. Also, suggest it would be a good idea to install back-to-back trail cameras along the AWAR to document the whole radius of detected movement when caribou cross the AWAR.

Corey de le Mare – Noise in function of roads, design camera according to objectives

Nina Morrell – Caribou behavior were documented during convoy going slow, no disturbance to caribou were recorded.

Robin Allard – will have dash cameras at front of pickups

5.2 Presentation about drones and AI

Speaker: Helene Boulanger

Dan Chranowski – Clear images would be obtained from a drone hovering at about 300 m above ground level, using 6K camera resolution to zoom-in on early arriving caribou groups. New technology allows for the set-up of drone transects that record videos and use ArcGIS to track migration. Need to find a balance between the size of the drones and their capacity to fly in strong wind conditions.

Anne Gunn – Several drone studies used in Alaska and Africa have journal publication. Might look at risk Corey and Greg with technology of drone and stitching software. Can look at detection from University of Alberta that has Bathurst population to process images and University of Victoria that would have image processing



Greg Sharam – Where we are for camera. The key players are Microsoft for AI for Movement of Life Program and Cold burden with Ann with Bathurst. Mitch can be available with species basic. Will work in the loop and develop. High resolution camera is what to look for.

Anne Gunn – Use of drone during for large group. Verify limitation of drone at 300-350 m elevation. Need to be in sight. Drones have high pitch sound and distance when flying.

Raymond Mercer – Check with GN and Transport Canada about wildlife harassment

Kamil Sameer – No info about distance and noise. Need to start with pilot project to be established

Eva Elytook – Female caribou can think that eagle is around to take calf, the cow might be in alert mode

Greg Sharam – Movement of Life Program. Data capture of public land from US. Looking at wildebeest. Have contact in Serengeti.

6. 2023 Tag Planning

Speaker: Robin Allard

Find proper logistic how to meet:

March

- DSSA - AWAR crossing memo
- Decision Tree Revision
- RSA and Deflection
- 2022 Annual report high level overview
- TEMMP

June – in person at site - Rankin

- 1 field day
- Caribou Mitigation and monitoring
- Readiness plan

October

- Meliadine extension
- Post migration update

There is the possibility to have additional shorter meetings throughout the year.

7. End of meeting

Jeff Tulugak – Would like to get information about year-round caribou.

Raymond Mercer – New VP that will decide if NTI signs the TOR.